recorded and retrieved at the completion of a test period, the present technology is available to transmit the information on a real time basis to a remote receiver and interpreted using a personal computer. This latter method is preferred for applications where the monitoring installation is used to provide early warning of a pollution problem for example. In this respect, the monitoring apparatus in the installation of the second preferred embodiment **94** is connected by communication cable **96** to an instrument buoy **98** as illustrated in FIGS. **7**, **8** and **9**.

The preferred instrument buoy **98** is solar powered from a solar panel **100**, and contains a data transmitter **102** which receives data from the instrumentation **44** and camera **42** through the communication cable **96** and which transmits the data in a wireless mode through an antenna **104**, to a remote receiver. The preferred instrument buoy also contains a battery charger **106** and a battery **108** supplying power to the instruments in the buoy, or to both the instruments in the buoy and the instruments in the monitoring apparatus.

The monitoring apparatus of the installation of the second preferred embodiment **94** can be used with or without the second light **72**. When the installation is used as an early warning system especially, the second light **72** is not required, and the support structure **46** is preferably adapted to support a number of socks of mollusks such that the monitoring is carried out with a test sample preferably containing as many as one hundred animals, and in specific cases, a mixture of species or different sizes of individuals.

A continuous status signal travels by cable **96** to the solar-powered instrument buoy **98**, from where it is transmitted by wireless communication mode to the operation manager's desktop computer (not shown). There, appropriate visualisation software presents the information from one or more monitoring installation in a format that permits immediate decision-making.

It will be appreciated that the installation of the second preferred embodiment may also be used with the accessories comprised in the monitoring apparatus **20** of the first preferred embodiment, and vice versa.

The monitoring installations of both preferred embodiments comprise portable apparatus, which are relatively inexpensive to manufacture, which can be transported and deployed using a small boat, a skiff or a dory for example. The installations of the preferred embodiments allow the monitoring of aquatic organisms that are at ease with their monitored conditions, such that a variation between a normal and stressed behaviour patterns is as large as possible, and the reliability of each test is high.

While the above description provides a full and complete disclosure of the preferred embodiments of the monitoring installations of the present invention, various modifications and equivalents may be employed without departing from the true spirit and scope of the invention. Such changes might involve alternate structural arrangements, sizes, construction features and the like. Therefore, the above description and the illustrations should not be construed as limiting the scope of the present invention which is defined by the appended claims.

We claim:

1. An apparatus for in situ monitoring a quality of habitat of aquatic organisms, comprising:

a framework having an upper end connectable to a buoy and a lower end connectable to a mooring,

a camera attached to said framework, said camera being adapted for underwater operation and having data storage capabilities for registering a number of images;

instrumentation also attached to said framework and containing instruments relative to characteristics of said body of water and a power supply means connected to said instruments for operating said instruments; and

a support structure mounted on said framework and extending in front of said camera, said support structure comprising a pair of spaced apart telescopic arms extending away from said camera, and a frame affixed to said telescopic arms, said frame having means for defining a plane perpendicular to a line of sight of said camera, and means for supporting an aquatic organism specimen in front of said camera;

such that said framework is submersible at a set depth in a body of water and a behaviour of an aquatic organism specimen is observable by said camera when said apparatus is adapted to be submerged in said body of water, and said aquatic organism specimen is attached to said support structure.

2. The apparatus as claimed in claim **1**, wherein said frame is a rectangular frame.

3. The apparatus as claimed in claim **2**, wherein said telescopic arms have clevises, and said clevises have means for pivotally and detachably retaining said rectangular frame to said telescopic arms.

4. The apparatus as claimed in claim **2** wherein said means for supporting an aquatic organism specimen in front of said camera comprises an upper and lower rotary retainers mounted on said rectangular frame for adjustably retaining an aquatic organism specimen to said rectangular frame.

5. An installation for in situ monitoring a quality of habitat of aquatic organisms in a body of water, comprising:

a buoy floating on said body of water;

a mooring resting on a bottom surface of said body of water; and

a monitoring apparatus comprising:

a framework being submersed in said body of water, and having an upper end connected to said buoy and a lower end connected to said mooring;

a camera attached to said framework, said camera being adapted for underwater operation and having data storage capabilities for registering a number of images;

instrumentation also attached to said framework, said instrumentation containing instruments relative to characteristics of said body of water and a power supply means connected to said instruments for operating said instruments; and

a support structure mounted to said framework and extending in front of said camera, said structure having means for supporting an aquatic organism specimen in front of said camera;

such that a behaviour of an aquatic organism specimen is observable and registrable by said camera for interpretation relative to said quality of habitat.

6. The installation as claimed in claim **5**, wherein said means for supporting an aquatic organism specimen in front of said camera comprises means for supporting a sock of mollusks.

7. The installation as claimed in claim **6**, wherein said support structure comprises a pair of spaced apart telescopic arms extending away from said camera, and a rectangular frame affixed to said telescopic arms and defining a plane perpendicular to a line of sight of said camera.

8. The installation as claimed in claim **7**, wherein said telescopic arms have means for detachably retaining said rectangular frame thereto.